



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,178	01/28/2004	Kuo Yui Li	08954.0013	9854
22852	7590	05/23/2005	EXAMINER	
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			KOVAL, MELISSA J	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 05/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/765,178	Applicant(s) LI ET AL.	
	Examiner Melissa J. Koval	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2005.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-12 and 14-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☐ Claim(s) _____ is/are rejected.
 7) ☒ Claim(s) 3 and 13 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 28 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>August 12, 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-12, and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kwok et al. U.S. Patent 6,793,344 B2 in view of Johnson et al. U.S. Patent 6,183,091 B1.

Claim 1 sets forth: "A projection display apparatus, comprising:

a light source supplying a first polarized light and a second polarized light (See column 3, lines 66 and 67, and column 4, lines 1 through 10 of '344 B2.);

a polarizing beam splitter separating the first polarized light and the second polarized light into two directions (See column 4, lines 11 through 21, of '344 B2.);

a first reflective light panel having a first color filter embedded therein, the first reflective light panel receiving the first polarized light from the polarizing beam splitter and reflecting a first image light (See the embodiment shown in Figure 16 of '344 B2. A liquid crystal light valve (red/blue) having on-chip color filters is discussed in column 5, lines 25 through 49.);

a second reflective light panel receiving the second polarized light from the polarizing beam splitter and reflecting a second image light (See the liquid crystal light valve (green) as shown in Figure 16.);

a first color selector converting the first image light and the second image light into the same polarities; and

a projection lens receiving and projecting the combined first and second image light from the first color selector (projection lens 7)."

In all of the embodiments shown by Kwok et al. '344 B2, light that has been polarized and separated is recombined before the light becomes incident on projection lens 7. However, Kwok et al. '344 B2, are silent to the presence of "a first color selector converting the first image light and the second image light into the same polarities" as is set forth in applicant's claim 1.

Johnson et al. U.S. Patent 6,183,091 B1 teach a system analogous to that of Kwok et al.'344 B2, and '091 B1 show a variety of retarder stacks 116,126,134 and 136 that will select light based on color wavelength and rotate the light to a desired state of polarization. Any of these elements read on applicant's "first color selector".

It is well known in the art to rotate light to a desired polarization when recombining light that has been separated, thus eliminating stray light and increasing the brightness and efficiency of the system. See the SUMMARY OF THE INVENTION of '091 B1.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to introduce a retarder stack as shown by Johnson et al. '091 B1 into the system shown by Kwok et al. '344 B2, for the purposes of more efficiently directing the previously separated light to create recombined light. The motivation for one having ordinary skill in the art to modify the system of Kwok et al.

Art Unit: 2851

'344 B2 in view of Johnson et al. '091 B1 would be to improve brightness and efficiency of the system.

Claim 2 sets forth: "The projection display apparatus as claimed in claim 1, wherein the directions of the first and second polarized light are orthogonal." See the Figures of both '344B2 and '091 B1.

Claim 4 sets forth: "The projection display apparatus as claimed in claim 1 further comprising:

a first quarter wavelength plate disposed between the polarizing beam splitter and the first reflective light panel (retarder stack 126); and

a second quarter wavelength plate disposed between the polarizing beam splitter and the second reflective light panel (retarder stack 134)."

Claim 5 sets forth: "The projection display apparatus as claimed in claim 1, wherein the first and second reflective light panels are LCOS panels." See column 4, lines 21 through 28, and claims 3, 6 and 7 of '344 B2, for example.

With respect to claims 6 through 10, again refer to column 5, lines 26 through 49.

Claims 11, 12, and 14 through 19 are rejected for the same reasons already applied to rejected claims 1, 2 and 4 through 10 above.

Allowable Subject Matter

Claims 3 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record neither shows nor suggests all of the elements of claims 3 and 13 in combination and particularly a polarizer structurally and optically related to the other elements, claimed as follows: "a first polarizer disposed between the first color selector and the projection lens".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa J. Koval whose telephone number is (571) 272-2121. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJK

Handwritten signature of Melissa J. Koval in black ink. The signature is stylized and includes the name "Melissa J. Koval" written vertically and horizontally.